

connection established in act **304** from the medical device to the device gateway. The device gateway formats a response to act **303**. If the medical device is not a member of the device gateway's device access list **275** the state is set to REJECTED. If the medical device is a member of the device gateway's device access list **275** and the software package is not available, the state is set to NONE. If the medical device is a member of the device gateway's device access list **275** and the software package is available, the state is set to AVAILABLE and the response payload includes (or references) a software package file (e.g., using DIME). The response is communicated and in act **301**, the HTTPS connection is closed. In act **300**, the medical device examines (e.g., processes and uses) the response.

[0306] FIG. 23 shows a flow chart illustrating a method **305** of communication between a medical device and a device gateway to perform a DAL configuration file check transaction in accordance with an embodiment of the present disclosure. The DAL Configuration File Check transaction (implemented as method **305**) is initiated to retrieve the available DAL file from the device gateway. The transaction is initiated whenever a DAL AVAILABLE has been received from a previous Communication Status Check transaction.

[0307] Act **306** initiates the method **305**. The request is initiated in act **306**, and the request is formatted as a web method in act **308**. The medical device communicates the web method to the device gateway by establishing a HTTPS connection in act **313**. In act **312**, a response is formatted. If the medical device is not a member of the device gateway's device access list **311**, the state is set to REJECTED, otherwise it is set to AVAILABLE. If the state is set to AVAILABLE, the device gateway formats the response payload to include the DAL configuration file (which may be attached using DIME). The response is communicated to the medical device and in act **310**, the HTTPS connection is closed. Act **309** examines the response by the device gateway. The new DAL file may then be installed on the medical device.

[0308] FIG. 24 shows a flow chart illustrating a method **314** of communication between a medical device and a device gateway to perform a service log post transaction in accordance with an embodiment of the present disclosure. The Service Log Post transaction (implemented as method **314**) is initiated to send the service log to the device gateway. The transaction is initiated whenever a SERVICE-LOG REQUEST has been received from a previous Communication Status Check transaction.

[0309] Act **315** receives the trigger and initiates the method **314**. Act **316** initiates the post service log which is formatted into a web method in act **317**. The web method is transmitted to the device gateway via an HTTPS connection that is established in act **322**. Act **321** processes the web method and formats a response. The device gateway may write the information to a log file or communicate the service log post as a CQI message and sent it to cloud services (as described above). The response is communicated to the medical device which examines the transaction response in act **317** (e.g., by examining the return value to determine if it was a successful service log post). Act **319** closes the HTTPS connection after the response is transmitted.

[0310] FIG. 25 shows a flow chart illustrating a method **232** of communication between a medical device and a device gateway to perform an engineering log post transac-

tion in accordance with an embodiment of the present disclosure. The Engineering Log Post transaction is initiated to send the engineering log to the device gateway. The transaction is initiated whenever an ENGINEERINGLOG REQUEST has been received from a previous Communication Status Check transaction.

[0311] Act **324** receives the trigger and initiates the method **323**. Act **325** initiates the post engineering log which is formatted into a web method in act **326**. The web method is transmitted to the device gateway via an HTTPS connection that is established in act **331**. Act **330** processes the web method and formats a response. If the medical device is an authorized medical device as indicated by the access list **239**, the device gateway may write the information to a log file or communicate the service log post as a CQI message and sent it to cloud services (as described above). The response is communicated to the medical device which examines the transaction response in act **327** (e.g., by examining the return value to determine if it was a successful engineering log post). Act **328** closes the HTTPS connection after the response is transmitted.

[0312] FIG. 26 shows a flow chart illustrating a method **332** of communication between a medical device and a device gateway to perform an infusion log post transaction in accordance with an embodiment of the present disclosure. The Infusion Log Post transaction (implemented as method **332**) is initiated to send XML formatted infusion event information to the device gateway. The transaction is initiated whenever infusion event information is available that has not been previously sent to the device manager. DGCM **342** marks the record as delivered if the transaction is successful.

[0313] Act **333** receives the trigger and initiates the method **332**. Act **334** initiates the infusion log post which is formatted into a web method in act **335**. The web method is transmitted to the device gateway via an HTTPS connection that is established in act **340**. Act **339** processes the web method and formats a response. The device gateway may write the information to a log file or communicate the infusion log post as a CQI message and sent it to the cloud services (as described above). The response is communicated to the medical device which examines the transaction response in act **336** (e.g., by examining the return value to determine if it was a successful infusion log post). Act **337** closes the HTTPS connection after the response is transmitted.

[0314] Various alternatives and modifications can be devised by those skilled in the art without departing from the disclosure. Accordingly, the present disclosure is intended to embrace all such alternatives, modifications and variances. Additionally, while several embodiments of the present disclosure have been shown in the drawings and/or discussed herein, it is not intended that the disclosure be limited thereto, as it is intended that the disclosure be as broad in scope as the art will allow and that the specification be read likewise. Therefore, the above description should not be construed as limiting, but merely as exemplifications of particular embodiments. And, those skilled in the art will envision other modifications within the scope and spirit of the claims appended hereto. Other elements, steps, methods and techniques that are insubstantially different from those described above and/or in the appended claims are also intended to be within the scope of the disclosure.